

What is Claimed is:

- 1        1. A method for executing a query against a database, wherein the database  
2 includes partitions for storing table data based on a partitioning schema with each  
3 partition associated with a partition identifier and database catalog information associated  
4 with the database, the method comprising:
  - 5            (a) identifying a partition identifier in accordance with the partitioning schema;
  - 6            (b) selecting the partition identifier based upon the contents of the query and the  
7 database catalog information; and
  - 8            (c) executing the query against the identified partition.
- 1        2. The method of claim 1, wherein step (b) further includes:
  - 2            (b.1) storing the database catalog information in a database catalog cache.
- 1        3. The method of claim 2, wherein step (b.1) further includes:
  - 2            (b.1.1) building a subset of the database catalog; and
  - 3            (b.1.2) storing the subset of the database catalog in the catalog cache.
- 1        4. The method of claim 1, wherein step (b) further includes:
  - 2            (b.1) resolving the partition identifier.
- 1        5. The method of claim 4, wherein step (c) further includes:
  - 2            (c.1) executing the query based upon the identified partition identifier.

1       6. The method of claim 4, wherein step (b) further includes:  
2             (b.2) forwarding the identified partition identifier to a client application  
3             requesting table data.

1       7. A database management system for executing a query against a database,  
2       wherein the database includes partitions for storing table data based on a partitioning  
3       schema with each partition associated with a partition identifier and database catalog  
4       information associated with the database, the method comprising:  
5             a schema-lookup module to identify a partition identifier in accordance with the  
6       partitioning schema;  
7             a partition-router module to select the partition identifier based upon the contents  
8       of the query and the database catalog information; and  
9             a data-manager module to execute the query against the identified partition.

1       8. The system of claim 7, wherein the partition-router module includes:  
2             a catalog-cache module to store a portion of the database catalog information in a  
3       database catalog cache.

1       9. The system of claim 8, wherein the catalog-cache module includes:  
2             a build-cache module to build a subset of the database catalog; and  
3             a store-cache module to store the subset of the database catalog in the catalog  
4       cache.

1       10. The system of claim 7, wherein the partition-router module includes:

2           a connection module to resolve the partition identifier.

1           11. The system of claim 10, wherein the data-manager module includes:  
2           an execution module to execute the query based upon the identified partition  
3           identifier.

1           12. The system of claim 10, wherein the partition-router module includes:  
2           a client-coordinator module to forward the identified partition identifier to a client  
3           application requesting table data.

1           13. A program product apparatus having a computer readable medium with  
2           computer program logic recorded thereon for executing a query against a database,  
3           wherein the database includes partitions for storing table data based on a partitioning  
4           schema with each partition associated with a partition identifier and database catalog  
5           information associated with the database, said program product apparatus comprising:  
6           a schema-lookup module to identify a partition identifier in accordance with the  
7           partitioning schema;  
8           a partition-router module to select the partition identifier based upon the contents  
9           of the query and the database catalog information; and  
10          a data-manager module to execute the query against the identified partition.

1           14. The program product of claim 13, wherein the partition-router module  
2           includes:

3           a catalog-cache module to store a portion of the database catalog information in a  
4   database catalog cache.

1           15.   The program product of claim 14, wherein the catalog-cache module  
2   includes:

3           a build-cache module to build a subset of the database catalog; and  
4           a store-cache module to store the subset of the database catalog in the catalog  
5   cache.

1           16.   The program product of claim 13, wherein the partition-router module  
2   includes:

3           a connection module to resolve the partition identifier.

1           17.   The program product of claim 16, wherein the data-manager module  
2   includes:

3           an execution module to execute the query based upon the identified partition  
4   identifier.

1           18.   The program product of claim 16, wherein the partition-router module  
2   includes:

3           a client-coordinator module to forward the identified partition identifier to a client  
4   application requesting table data.